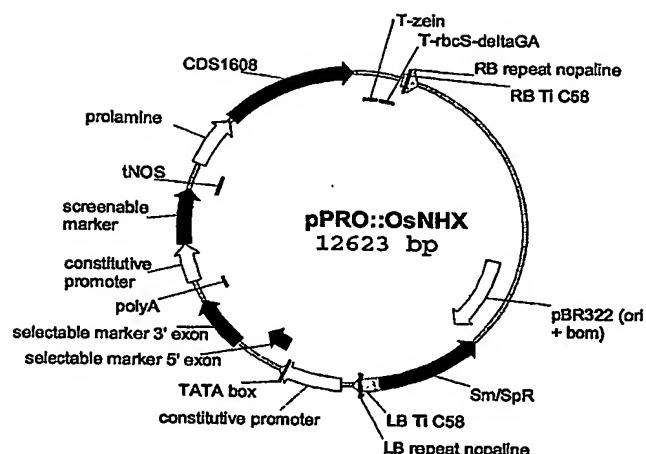
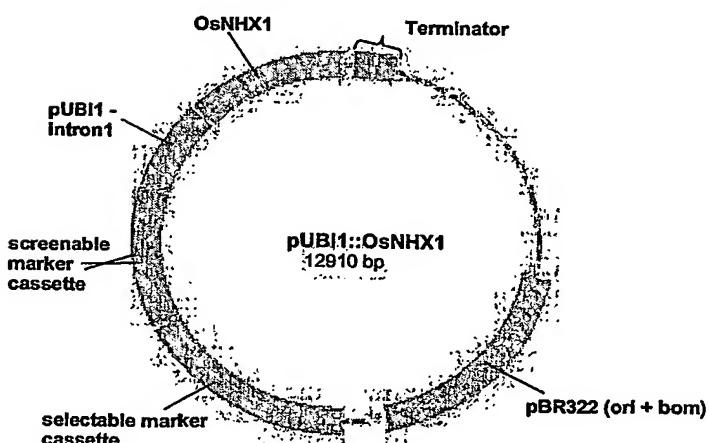


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1/18

**FIGURE 1****FIGURE 2**

2/18

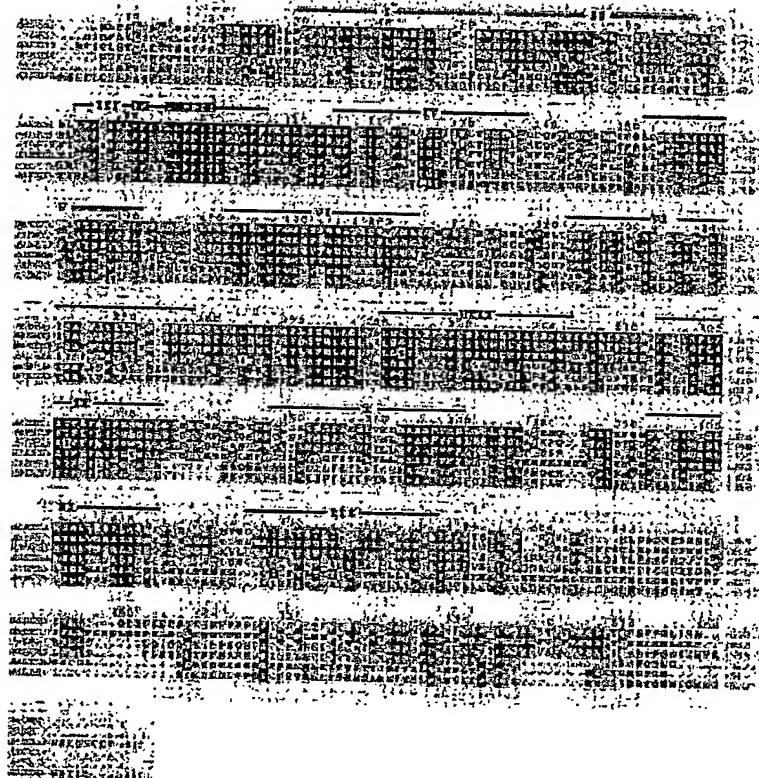


FIGURE 3

3/18

SEQ ID NO 1: coding sequence for *Oryza sativa* NHX1 protein

GAGAAGAGAGTTGTAGCGAGCTCGCGAATGCGAACGCCAACGGAGAGGGTCTCGA
TACCAAATCCGATTCTCAACCTGAATCCCCCCCACGTTCTCGTTCAATCTGTT
CGTCGCAATCGAATTCTTGTCTTCTCTAATTTACCGGAATTGTCGAATT
AGGCATTCAACCAACGAGCAAGGGGAGTGAGTTGGTTAAAGCTCCGCATCTTGC
GGCGGAAATCTCGCTCTTCTCTGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG
CATGGGGATGGAGGTGG
CGTCGGTGGTGCATCAACCTGTCGCGCTGCTCGGCCATCGTCCTCGGC
CACCTCCGGAGGAGAACGCTGGTCAATGAGTCATCACCGCGCTCATCATCGGGCT
CTGCACCGCGTGGTCAATGAGCTGGTCAATGAGCACAAAGGGAGAGCTCGCAGCTTATTGCT
TCAGTGAGGATCTCTTCTCATCTACCTCCCTCCGATCATCTCAATGCAAGGTTT
CAGGTAAAGAAAAGCAATTCTCGGAAATTCTCATGACGATCACATTATTGGAGCCGT
CGGGGACAATGATACTCTTTTCAAAATATCTATTGCTGCCATTGCAATTCAAGCAGAA
TGAACATTGGAACGCTGGATGAGGAGATTCTTGCACATTGGAGGCCATCTTCTGCG
ACAGATTCTGTCGACATTGCAAGGCTCTCAATCAGGATGAGACACCCCTTTTGTACAG
TCTGGTATTCTGGTGAAGGTGGTGAACGATGCTACATCAATTGCTTCAACGGCAC
TACAGAACTTTGATCTTGTCCACATAGATGGGGCTGTGGTCTGAAATTCTGGGGAAC
TTCTTTTATTCTTGTGGAGCACCTCTGGAGTATTGCTGGATTGCTCAGTGC
ATACATAATCAAGAAGCTATACTATTGGAAGGCAATTCTACTGACCGTGAGGTTGCCCTTA
TGATGCTCATGGCTTACCTTCAATATATGCTGGCTGAGTTCTAGATTGACGGCATT
CTCACCGTATTCTCTGCTGTTGTAATGTCACATTACATGGCATAACGTACACAGA
GAGTTCAAGAGTTACAACAAAGCACGCAATTGCAACTCTGCTTCAATTGCTGAGACTT
TTCTCTCTGTATGGTGGGATGGATGCAATTGATAATTGAAAAATTGGGAGTTGCCAGT
GACAGACCTGGCAAATCCATTGACGGGATAAGCTCAATTGCTAGGATTGGTTCTGATTGG
AAGAGCTGCTTTGTATTCCGCTGTCGTTCTGCAAGCTAACAAAGGAAGGCACCGA
ATGAAAAAAATAACCTGGAGACAGCAAGTTGTAATATGGTGGGCTGGGCTGATGAGAGGA
GCTGCTGATTGCTCTGCTACAATAAGTTACAAGATCTGGCCTACTCAGCTGCA
CGGCAATGCAATAATGATCACCAAGCACCATCACTGCTCTTTTAGCACTATGGTAT
TTGGGATGATGACAAGCCATTGATCAGGCTGCTGCTACGGCCATCTGTC
ACCTCTGAGCTCATCACCAAAGTCCCCTGCAATTCTCTCTGACAAGCATGCAAGG
TTCTGACCTCGAGAGTACAACCAACATTGAGGCTTCCAGCCTCCGATGCTCTCA
CCAAGCCGACCCAACTGTCCACTACTACTGGCGCAAGTTCGACGGCGCTGATGCGA
CCGATGTTGG
CCATGGAGGAAGATGAAACAGTGCAGGAAAGGAGAATGAGATGGTTGAGGAGAATA
CATGTAAGGATGTCAGCAAGGAAAGGAGAAGGCAAGGTTGGGTTGAGGTTGGCTG
CTGCTAATGAGTTGATAGTGCCTATATTCTCAGAACCTCAGATGCTGCTCACC
AGGCCTAAAGAGCCAGGAGGACCTTCTGATAATGGTTGGGATGATTGGTTGTTCTGTC
AGGATGAAACCCTAGTGAGTGACACAGGGTGATGTCGCTCGACAACCTGTAATTTGTA
GATTAACAGCCCCATTGTAACCTGCTACCATCTTGTGGGGGTGTTCTTCTAG
TTGCCACCCCTGCATGTAAGGAAATTCTCCGCCAAAATAGATTGTTGTTGATAATAAT
TTGCTTGGTTG

FIGURE 4

4/18

SEQ ID NO 2: *Oryza sativa* Nhxl protein

MGMEVAARL GALYTTSDYASVVSINLFVALLCACIVLGHILLENRWVNESITALIIGL
 CTGVVILLMTKGKSSHLFVFSEDLFFIYLPPPIIFNAGFQVKKKQFFRNFMTITLFGAV
 GTMISFFTISIAAIIFSRMNIGTLDVGDFLAIGAIFSATDSVCTLQVILNQDETPFLYS
 LVFGEGVVNDATSIVL FNALQNF DLVHIDAAVVLKFLGNFFYLFLSSTFLGVFAGLLSA
 YIIKKLYIGRHSTDREVALMMIIMAYLSSMLAELLDLSGILTVFFCGIVMSHYTWHNVTE
 SSRVTXKHAFATLSFIAETFLFLYVGMDALDIEKWEFASDRPGKSIGISSLGGGLVLI
 RAAVFVPLSFLSNLT KKA PNEKITWRQQVVIWWAGL MRGAVSIALAYNKFTRS GHTOLH
 GNAIMTSTITVVL FSTM VFGMTKPLIRLLLPAS GH PV TSE PSSPKS LHSPLL TS MQG
 SDLESTTNIVRPSSLRMLLTKPTHTVHYYWRKFDDALMRPMFGRGFVPFSPGS PTEQS
 HGGR

SEQ ID NO 3: *Arabidopsis thaliana* Nhxl

ATGTTGGATTCTCTAGTGT CGAACACTGCCCTCGTTATCGACATCTGATCACGCTTCTGT
 GGTTGCCCTGAATCTCTTGTC ACTCTTGTGCTTGATTGTTCTGGTCATCTT
 TGGAGAGAATAGGATGAACGAATCCATCACCGCTTGTGATTGGGCTAGGC ACT
 GGTGTTACCATTGTGATTAGTAAAGAAAAGCTGCATCTCTCGCTTTAGTGA
 AGATCTTCTCATATATCTTGCAACCCATTATATTCAATGCAGGGTTCAAGTAA
 AAAAGAAGCAGTTTCCGCAATTTCGTGACTATTATGCTTTGGTGCCTGGGACT
 ATTATTCTTGCAACATCATATCTCTAGGTGTAACACAGTCTTAAGAAGTGGGACAT
 TGGAACTT TGACTTGGGTGATTATCTGCTATTGGTGC CATATTGCTGCAACAGATT
 CAGTATGTACACTGCAAGTTCTGAATCAAGACGAGACACCTTGCTTACAGTCTGTA
 TTGGAGAGGGTGTGGAATGA TGA CAACGTCAGTTGTCGCTTCAACCGGATTCAAGAG
 CTTTGATCTCACTCCTAACCTAACCGAAGCTGCTTTCACTTCTGGAAACTTCTGT
 ATTTGTTCTCCTAAGTACCTTGCTTGCTGCAACCGGCTGATAACTGCGTATGTT
 ATAAGAAGCTATACTTGGAAAGGCACTCAACTGACCGAGAGTTGCCCTTATGATGTT
 TATGGCGTATCTTCTTATATGCTTGCTGAGCTTTGACTTGAGCGGTATCCTCACTG
 TGTTTCTGTGTTATTGATGCCATTACATGCCAACATGTAACCGAGAGCTCA
 AGAATAACAACAAACATACCTTGCAACTTGTCAATTCTGCGGAGACATTATT
 CTTGTATGTTGGAAAGGATGGATGCCCTGGACATTGACAAGTGGAGATCCGTAGTGACACAC
 CGGGAACATCGATCCAGTGAGCTAACCTTAATGGGTCTGGTCATGGTGGAAAGAGCA
 GCGTTCGTCTTCCGTTATGTTCTATCTAACCTGACAGTAAAGAAGAATCAAAGCGAGAA
 AATCAACTTAA CATGCAGGTTGTGATTGGTCTGGTCTCATGAGAGGTGCTGTAT
 CTATGGCTCTTGCAACACAAGTTACAAGGGCCGGCAACAGATGACGGGGAAAT
 GCAATCATGATCACGAGTACGATAACTGTCGTCTTTAGCACAGTGGTGTGTTGGTAT
 GCTGACCAAAACCCACTCATAAGCTACCTATTACCGCACCAGAACGCCACAGGACATGT
 TATCTGATGACAACACCCAAAATCCATACATATCCCTTGTGGACCAAGACTCGTC
 ATTGAGCCCTCAGGGAAACCACAATGTCCTCGGCTGACAGTACCTGGCTTCTGAC
 ACGGCCCACTCGAACCGTGCATTACTACTGGAGACAATTGATGACTCCTCATGCGAC
 CGTCTTGAGGTCGTGGCTTGTACCCCTTGTCCAGGTTCTCCAAC TGAGAGAAC
 CCTCCTGATCTTAGTAAGGCT

FIGURE 4 (continued)

5/13

SEQ ID NO 4: *Arabidopsis thaliana* Nhx1 protein

MLDLSVSKLPSLSTS DHASVVALNLFVALLCACIVLGHILLEENRWMNESITALLIGLT
 GVTILLISKGKSSHLLVFS ELDFFTYLLPPIIFNAGFQVKKKQFFRNFTIMLFGAVGT
 IISCTIISLGVTQFFKKLDIGTFDLGDYLAIGAIFAATDSVCTLQVNODETPLLYSLV
 FGEGVVNDATSVVFNAIQSFDLTHLNHEAFHLLGNFLYLFLSTLLGAATGLISAY
 IKKLYFGRHSTDREVALMMLMAYLSYMLAEFLDSLGLITVFFCGIVMSHTWHNVTESS
 RITTKHTFATLSFLAETFIFLYVGMDALDIDKWRVS DTPGTSIAVSSILMGLVMVGRA
 AFVPLFLSFLSNLAKKNQSEKINENMQVVIWWSGLMRGAVSMALAYNKFRAGHTDVGRN
 AIMITSTITVCLFESTVVFGMLTKPLISYLLPHQNATTSMLSDDNTPKSIIHPIPLDQDF
 IEPSGNHNVP RD SIRGFLTRPTRTVHYYWRQFDDSFMRPVFGGRGFVFPVPGSPERN
 PPDLASKA

SEQ ID NO 5: *Medicago sativa* Na⁺/H⁺ antiporter

ACGGGGGAATCCAACCCATTCTATAACAACA ACTACCGGAGATATATAATATCTCT
 CCTCTAAATAGAAATTCGACAGAGTGACTCAACAAGATTATTAGGAGTGATAATCTTCC
 ACGGCAGCTAAAAACAAACACATCCGATT CATCATCAGCGTTGCTCGAGAGATACT
 TGTGTTGATGAGATCAGAAGGTTCTTAAAATGGACAGCTCAGAACATAAAATCTGGG
 ATTCAATTACTACTGGACTTTGAAATTGGAAATTCA GCAATAATCTCAATTCTC
 TTAATCTGCTTTGAAATTCTGGAGGGTGACGACATCATGGCTATTGAAATGTCTT
 CTATTGTTCAAACATATCAATGTTATCCACTTCCGATCATGCTTCTGTTGTTCTATG
 AACTTGTGTTGTGGCAGTTCTGTGTGCTTGATTTGCTTGTGCTCATCTTCGAGGAGAA
 TCGATGGATGAATGAAATCCATCACTGCCCTTTGATTGGTATTTCGACTGGTGAGTGA
 TTTGCTGTTAGTGGTGGAAAAGTTCGCATATTCTTGTGTTCTAGTGAAAGATCTTC
 TTATATACCTCTGGCCCTATTATATTCAATGCCGGTTCAAGTAAAGAAAAAGCA
 GTTTTTGTCAACTCATGACTATCACATCATTGGAGCTATTGGCACATTAAATATCTT
 GTGTCATTATAACCACGGGTGCTACTTTGCTTTAAGAGGATGGATATTGGGCCACTG
 GAAATCGGCATTATCTGACTATTGGAGCAATTGGCCCAACAGACTCTTTGCAAC
 ATTGCAAGGTCTAAATCAGGATGAGACACCTTATTGATAGTCTTGATTTGGGAAG
 GTGTTGTAATGATGCTACCTCAGTGGCTTTCAATCAGGTTCAAGCTTTGATCTT
 AACCAACTGAACCCCTCAATTGCAATTGCAATTCTGGCAACTTCCCTGTTATTTGTTG
 AGCAACACTCCCTGGCGTTGACAGGGCTGCTCACTGCCTATGTTATTTAAAAGC
 TGTCATTGGCGCACTCCACAGATGTCAGGTTGCTCTTATGATGCTAATGGCATAAC
 CTCTCTTATATGCTGAGTAACCTATCTGAGTGGCATTCTTACCGTATTCTTTG
 TGGTATTGTTATGCTCATTATTA CTTGGCAATTGCAAGGCTGCTGAGAGTTCAAGAATCACTA
 CCAAGCATTCTTGTACCTTGTCTTGTGCTGAGATTTTATCTCCTTTATGTT
 GGTATGGATGCCCTGGACATTGAAAATGGAGTTGTTAGTGTAGTGTCTGGAAACATC
 TATAGCTGCAAGTTCACTTGTGACTTATGTTGGCTCTAATACCTCTGGAAAGAGCAGC
 TTCCCTTATCTTCTTATCCAACCTGACTAAAAATCACACATCAGAAGATTTCCCTC
 AGACAGCAAGTTATCTTGTGGCTGGCTTATGAGAGCTGCTGTTCAATGGCACT
 TGCCTATAATCAGTCACCATGTCGGGCATACTCAACTACGTAGCAATGCAATCATGA
 TAACCAGCACCACACTGTTGCTCTTCTGAGCACAGTGGTTGGTTGCTGACTAAG
 CCACCTCATAGGCTCTACTACCTCATCCTAAATCACAGCAGCATGACAACCACAGA
 ATCGACTACTCCAAAATCATTCAATTGTCCTACCTCTAGGAGATTCCCCAGATTCTGAAG
 CTGATCTGAAGGCCATGAAATTCA CGACCGAACAGCCTCTGCTCTTACTATCAACT

FIGURE 4 (continued)

6/18

CCAACTCACACTGTTCATCGATTATGGCGAAAGTTGATGATTCAATTCAATGCGCCTGT
 TTTGGTGGCAGAGGTTTGTCTGTAGAACCTGGCTACCAAGTGAAACGCAATGGTA
 ATCAATGGGGTTGAGAAAAGAACGCATGAATGTGTAATATGTGTTGTATACTACGTAT
 GATTGTTGAAAAGTCATGCAACGTGTGTATAATGTATTTATTCATAAGAACCTAGTAG
 TGAAATTTCCTTAAAAAAACCTCGTAGTGAAATTGTTGAGCTGTTGAGTAGC
 TAGTATGAGATGGCTGCCATCTCTGTCTATTATGTAACACTACAATTTTTAGAT
 TCTCTGAGCCATTACATGTTGTTGATGTCCAAAAAAAAAAAAA

SEQ ID NO 6: *Medicago sativa* Na+/H⁺ antiporter protein

MALEMSSIVSKLMSMLSTSDHASVVSMLNFVALLCACIVLGHLLNEENRWNESITALLIG
 IGTGVVILLFSGGKSSHILVFSEDLFFIVLPPPIIFNAGFQVKKQFFVNEMTITSFGA
 IGLTISCVIITTGATFAFKRMDIGPLEIGDYLAIQIAFAIDSVTLQVLNQDETPPLY
 SLVFGEGVVNDATSVVLFNAIQSFIDLNLQLNPSIALHFLGNFLYLFVASTLLGVVTGLLS
 AYVIKKLYIGRHSTDREVALMMILMAYLSYMLAELTYLSGLITVFFCGIVMSHYTWHNVT
 QSSRITTKHSFATLSFVAEIFIYVGMDALIEDEKWKFVSDSPGTSIAASSVLLGLILL
 GRAAFVFPLSFLSNLTKSQHQKISFRQQVIIWWAGLMRAVSMALAYNQFTMSGHTQL
 RSNAIMITSTITVVLFSTVVFGGLLTKEPLIRILLPHPKITSSMTTESTTPKSFIVPLLG
 DSRDSEADLEGEHIEHRPNSLRALLSTPTHTVHLWRKFDSFMRPVFGGRGFVPVEPGS
 PSERNGNQWG

SEQ ID NO 7: *Suaeda maritima* subsp. *salsa* Na+/H⁺ antiporter

TTTCACAAAGATTATTGGACTTCAGAAGTTGATTTGTGGAGCTAGAAAGGGTTTCAC
 ATACATGGACATTAACTTAATGTAATATATATATTTGTTGTTGGGTCTTGGATTCCG
 GTGCCAAAGAAATAGGTGAAACAATGTTGTCACAGTTGAGCTCTTTTTTGTGCAAGTAAG
 ATGGACATGGTTTCAGCTCTGATCATGCTTCCGTTGTTGATGAATTGTTGTTGTC
 ACTGTTACGTGGCTGCATTGTAATTGGTCATCTCTCGAAAGAGAATCGCTGGATGAATG
 AATCATTACAGCTTGCTAATAGTTTATCTACTGGGATTATAATCCTGCTAATTAGT
 GGAGGAAAGAGTTCGCATTGTTGCTTCAGTGAAGATCTTTCTTTATACCTCCT
 TCCACCGATTATATTCATGCGGGTTTCAGGTGAAAAAGACAAATTTCCTCGCAACT
 TCATTACTATTATTTGTTGGACCGGTTGGTACATTGGTATCATTATAATCATATCT
 CTTGGTTCAAGCTPATATTTCAAAGATGGATATTGGTTCGCTGGAGTTAGGGGATCT
 TCTTGCACATTGCAAGTGCTTA
 ATCAAGATGAGACTCCACTTCTTATAGCTCCGTTGGTGAAGGTGTCGTCAATGAT
 GCTACATCAGTGTGTTGTTCAATGCAATTCAAACATTGACCTCACGCACATTGACCA
 CAGAATTGCCCCCTCAATTGGGGCAACTTTCTATATTATTTTGTGCAAGCACTCTGC
 TTGGAGCAGTGAAGTGGCTTGCTAACGCCTTATGTCATCAAAAAGTTGACTTTGGAAAGG
 CATTCAACTGACCGTGAGGTAGCCATTATGATGCTTATGGCTTATCTATCGTACATGCT
 TGCTGAACCTTCTATCTGAGCGGAATTCTTACAGTATTCTCTGTTGGGATTGTCATGT
 CCCATTATACATGGCACAATGACGGAGAGCTCCAGAGTAACCACCAAGCATGCTTT
 GCAACACTCTTTGTAGCTGAGATCTTCATCTTCTATATGTTGGTATGGATGCACT
 GGATATTGAGAAGTGGAGATTGAGCTGAGCGATAGTCCTGGACATCTGTTGCTGTGAGTT
 CCATACTGCTTGGCTTCACATGGTGGCGAGCTGCTTTGTTTCCCTTCGCTTT

FIGURE 4 (continued)

7/18

TTAATGAACTTGTCCAAGAAATCAAATAGTGAGAAGGTACCTCAATCAGCAGATACT
 CATTGGTGGCTGGTCTCATGAAAAGTGCIGCTCCGTGGCACTTGCTTATAATCAGT
 TTCAAGGTAGGACACACACAGCTGAGGGAAATGCAATCATGATTACAAGCACCAT
 ACCGGTGCCTTTCAGTACGATGGTATTGGTTGCTGACAAGCCTTATAACTCTT
 TATGTTGCCTCAACCGAAACATTCACTAGTGCAGCACCGIGTCAGATTGGGAGTC
 CAAAGTCATTCTCTTGCCCTCTCTTGAAAGATAGACAAGATTCTGAAGCTGATTTGGGC
 AACGATGATGAAGAACGCCAACCCCCGTGGACTATAGCTGCACCTACTAGTCTCGTAT
 GCTACTAAATGCACCAACTCACACTGTCCATCATTATTGGCGCAGATTGGATGATTATT
 TCATGCGGCTGATTGGTGGCGGGGTTTGTACCTTTGTCCCAGGTTACCCACC
 GAACAGAGCATCACTAAATTGTCACAGAGAACATAAGTTAGCGATAATTGAGGAGTT
 GGTGCAGAAACTAAATAACTTACAGCCCTAACCGCAATCTAACAGAACAAAAATGCCCT
 TACCAAAAGAACGAAACAGCCCGTGTGGTCTCGTGGGCTTGATGTTAAGACTGTGCTG
 TACTCTGTTAATAGAGACTAAGTTACAGAAACCCGATTTAACATATCTGTAATT
 TTTACAGCATGGATATTGATGCAATTAACTCTGGCTGTAGCTAGAATACTCTAGCA
 TGTTTGTAGTTCACTTACCATTTAGTTTCTCCTACATAACCTCAATAAGCTGT
 TTAGTGTGCTTACTGCTTACTTTAGAGCAACTGCAACTGTGAAATTGCTTACGTCA
 CGGCACCTGTGTAATTATCATTATAATGATGGAGCATGATCATTGCAATCAAAT
 TTACAATACTGTGATTAAAAA

SEQ ID NO 8: *Suaeda maritima* subsp. *salsa* Na⁺/H⁺ antiporter protein

MLSQLSSFFASKMDMVSTSDHASVVSMLFVALLRGCIVIGHLEENRWMNESITALLI
 GLSTGIIILLISGGKSSHLLVSEDLFFIYLPIIFNAGFQVKKKQFRNFITIILFG
 AVGTILVSFIISLGSIAIFQKMDIGSLELGDLIAIGAIFAATDSVCTLQVLNQDETPLL
 YSLVFGGVVNADTSVVLFNAIQNFQFDLTHIDHRIAQFCGNFLYLFFASTLIGAVTGLL
 SAYVIKKLYFGRHSTDREVALMMLMAYLSYMLAEFLFYLSGILTIVFCGIVMSHYTWHNV
 TESSRVTTKHAFATLSFVAEIFIIFLYVGMDALDIEKWRFVSDSPGTSAVSSILLGLHM
 VGRAFVFVPPFAFLMNLSKKSNSEKVTFNQQIVIWWAGLMKSAVVALAYNQFSRSQHTQ
 LRGNAMINITSTITVVLFVGLLTKPLILFMLPQPKEFTSASTVSDLGSPKSFSLPL
 LEDRQDSEADLGNDDEEAYPRGTIARPTSLRMLLNAPTHTVHHYWRFFDDYFMRPVFGG
 RGFPVPVGSPTEQSITNFVTENIS

SEQ ID NO 9: *Zea mays* Na⁺/H⁺ antiporter NHX1

ATGGGGCTTGGAGTAGTGGCGGGAGCTAGTCGGCCTTGGCGCTTCTCCACCTCAGA
 TCACGCCCTCCGTGGTTAGCATCAATCTCTTGTGGCTGCTCTGCCTGATTCGTC
 TGGGCCATCTCTGAAAGAGAAATAGGTGGTGAACGAGTCACCGCGCTGATTCGTC
 CTCGGCACCGGTACCGTCATCCCTCATGATTAGCCGGGGGTGGTTATTCACTCTAGT
 CTTCCTCCGAGGACCTCTCTCTCATTTGCCCCGATCATTTCATGCAAGGGT
 TCCAAGTGAAGAAGAACAGTTCTTCGAAACTTCAATTACTATTACACTGTTGGTGCA
 GTTGGCACCTTGATCTCTTACTGTAATATCCCTGGCGCTAGGACTAATATCAAG
 GCTTAATATCGGCCACCTTGAACTGGGAGACTATCTGCACTTGGGCAATATTCTCGG
 CCACAGACTCGGTTGACCTTGCAAGGTGTTAAGCCAAGATGAGACACCAATTCTGTAC

FIGURE 4 (continued)

8/18

AGTCCTGTATCGGTGAAGGCGTGGTCAACGATGCCACTCCGTAGTGGTGTCAATGC
 ACTCCAAAACCTTGATATAACTCACATCGATGCCAGGTGTCTTCCATCTATTAGAA
 ACTTCTTCTACCTCTTCTATCAACTGTGTGGAGTGGCCACAGGACTTATCTCA
 GCGTAGTGTAAAGCTATACTTTGGACGGCACTCTACTGACAGGGAGGTGGCTCT
 TATGATGCTTATGGCTATCTCCTACATGTGGCGCACTCTTCCGCTGAGCGGGA
 TCTTGACGGTATTCTTGGGTGATTGTTATGCCACTATACATGGCACACCGTGACA
 GAGTCCAGCAGAACATCACGACTAACGATGCCACTTCCAGCTCTAGCCAAAC
 CTTCCCTTTCTGTACGTGGGTATGGATGCTCGACATTGACAAGTGGAGGTGGCTGA
 GTGACACCCAGGTAAAGTCTCTGGCATAACGCTGATTGTATGGACTCGTGATGGTT
 GGCGGGGCTGCCCTCGTATTCCCTCTCCTCTCCAATTAGCGAAAAAAACCGA
 GCACGAAAAATCAGCTGGAGCAGCAGGTGGTCAATTGGTGGGCGGGCTCATGCGAG
 GCGCCGTTTCCATGGCCCTAGCGTACAAGAAGTTTACCCGCCAGGGCATACTCAGGTC
 CGCGGGAACCGCAGTCATGATTACCAAGCAGGATTATCGTCGTTGTTGACAATGGT
 GTTCGGCTGCTCACGAAGCCCTTAATTAACTTGCTAATACCGCACCGTAACGCCACAT
 CGATGTTGAGCGATGACTCAAGCCCAAAGTCCTGATAGCCCTCTGCTAACCTCTCA
 CTCGGTAGCGACTTAGAGGAGCCGACCAACATCCCGCGGGCGAGCTCCATAAGAGGGGA
 GTTCCCTACCATGACTAGGACCGTGCACCGTACTGGCGAACGTTGACCGACGCCCTCA
 TGAGGCCATGTCGGAGGCCGGTTTGTACCTTGTGCCAGGCAGCCGACCGAG
 CGTAATCCGCCGGATCTTCAAGGCTAA

SEQ ID NO 10: Zea mays Na⁺/H⁺ antiporter NHX1 protein

MGLGVVAELVRLGVLSSTDHASVVSINLFVALLCACIVLGHLEENRWVNESTALIVG
 LGTGTILMISRGVVIRHVLVFSEDLFFFYLLPPIIFNAGFQVKKKQFFRNFITITLFGA
 VGTIISFTVISLGALGIISRINTIGALELGDYLALGAIFSADSVCTLQVLSQDETPFLY
 SLVFGEGVNVNDATSVNLFNLDITIDAEVVFHLLGMNFYLFLLSTVLGVATGLIS
 ALVIKKLYFGRHSTDREVALMLMAYLSYMLAELFALSGILTIVFFGICIVMSHYTWHNVT
 ESSRTTKHAFATLFLAETFLFLYVGMDALDIDKWRVSVDTPGKSLAISSILMGLVMV
 GRAAFVFPPLSFLSNLAKKTEHEKISWKQOVVIWWAGLMRGAWSMALAYKKFTRAGHTQV
 RGNAMIMITSTIIVVLFSTMVFGLLKPLINLIPHRNATSMISDDSSPKSLHSPLLTSQ
 LGSDLDEPTNIPRPSSIRGEFLTMTRTVHRYWRKFDDAFMRPMFGGRGFVPFVPGSPTE
 RNPPDLSKA

SEQ ID NO 11: Zea mays Na⁺/H⁺ antiporter NHX2

ATGGGCCTTGGTGTGATGCCAGACGGTCAGGCTGGAGTCCTTAGCTGACCTCGGA
 TCATGCCAGCGTTGTCAGTAACAACTTCTCTGAGCACTCTTGCCTGATCGTCC
 TCGGGCATTCTCTTGGAGGAGAACCGAATGGTTAATGAGTCATTACAGCACTGCTGGTG
 GGGCTGGGACTGGGACCGTGATTCTGATGATTAGTCGGGCGTGAGTATTACGTTCT
 CGTCTTTCAAGAGGACCTGTTCTTATCTATCTGTTACCTCCGATTATCTCAATGCCG
 GGTTTCAAGTAAAGAAAAGCAATTCTCCGCAACTTTATAACGATTATTTGTTGGT
 GCTATGGGACTCTGATTTCTTGTAAATAATCTCTTGTGCTATGGGTTGTTCAA
 GAAACTTGATGTTGGTCCACTCGAGCTGGGACTATCTTGTGCAATTGGTGTATTCT
 CGGCAACAGATTCTGTTGCACCTTACAGGTGCTAACCAAGGATGAAACACCCCTACTC

FIGURE 4 (continued)

9/18

TACAGTCTCGTATTGGCGAGGGCGTTGTTAATGATGCTACCTCAATCGTTGTGTTCAA
 CGCGCTCCAAAACCTCGACATCACCCACATCAATGCCGAGGTGGTATTTCACCTCCTTG
 GCAACTTCTTGTACCTCTTCTTATTGAGCACCGTGCTCGCGTGGCGACCGGTCTCATC
 TCCGCGCTGGTCAATTAGAAGATCTACTTCGGACGCCACTCGACTGATCGGGAACTGGC
 CTTAATGATGCTGATGGCATACTAAGCTACATGCTGGCAGAGCTTTTGCCCTGTCG
 GAATCCTCACTGTGTTTTCGGCTGATCGTCACTGAGCCATTATACTGTTGGCACAACGTC
 ACGGAGTCAGCCGAATTACTACGAAGCAGCCATTGGCCACCCCTGCTTCCCTGGCTGA
 GACTTTCATATTCTCTACGTTGGATGGATGGCCTAGACATTGAGAAGTGGCGGTCCG
 TTGGCGAACCCCCGGCAATCGATAGCCATATCCTCCATACTCATGGGGTTGTCATG
 CTGGCGCGCGCTTCTGCTCCGCTAACGTTCTGTCAAATCTGGCGAAGAAGAA
 TGAGCAGAAAAGATCTCTGGAAAGCAGCAAGTTGTGATCTGGAGGCGGTTTGATGA
 GGGGTCTGTCTCTATGGCCCTAGCTTATAACAAGTTACAGAGGCCCATACGGAG
 GTGAGAGGTAACGAAATCATGATTACTAGCACCATTACCGCTGTGCTATTCTCCACAGT
 GGTGTCGGTCTCTGACTAAACCAACTGATCAGGCTCCTTATGCCCAACGCCATCTGA
 CCATGCTCTCCGACCGCACCCCGAAGTCATTGCACTCACCTTGTGACATCCCAG
 CTGGGAAGCTCCATCGAAGAGCCGACGAGATAACCCAGCCTACAAATATTCTGGCGA
 ATTACAACATATGACGAGAACGGTGCATAGGTACTGGAGAAAATTGATGACAAATTCA
 TGCGCCAATGTTGGCGCAGGGCTCGTACCCCTGCTCCCTGGTCAACAACGGAG
 AGGAATCCCCACGATTTGAGCCCTAA

SEQ ID NO 12: Zea mays Na⁺/H⁺ antiporter NHX2 protein

MGLGVDAETVRLGVLSSTDHASVVSNNNFVALLCACIVLGHLLNEENRMVNESITALLV
 GLGTGTVILMISRGVSIHVILVFSDELFFIYLPPPIIFNAGFQVKKQFFRNFITIILFG
 AIGTLISFVIISLGAMGLPFKICLDVGPLELGDYLAIGAIFSAFDSVCTLQVLNQDETPLL
 YSLVFGEVVNDATSIVVFNALQNFDITHINAEVVVFHLLGNFLYLFLLSTVLGVATGLI
 SALVIKKIYFGRHSTDREVALMLMAYLSYMELFALSGLITVFFGCVMSHYTWHN
 TESSRITTKHAFATLFLAETFIFLYVGMDALDIEKWRSVSDTPGKSIAISSILMGLVM
 LGRAAFVFPLSFLSNLAKNEHKISWKQQVVIWWSGLMRGAWSMALAXNKFRAGHTE
 VRGNEIMITSTITVVFLLTKEPLIRLLMPHRHLTMLSDDSTPKSLHSPLLTSQ
 LGSSIEEPTQIPRPTNIRGEFTTMTRTVHRYWRKFDDKPFMRPMFGRGFVFPVPGSPT
 RNPHDLSKP

SEQ ID NO 13: Zea mays Na⁺/H⁺ antiporter NHX3

ATGTCAATAGGACTGACGGCCGAGACCGTGACTAACAGCTAGCCAGCCCGAGCACCC
 CCAAGTCGTCCTAATTCTGTGTTCAATTGCGCTCTCTGCTGTGCTGGTGTAGGGCC
 ACCTCCTTGAGGAGAACAGATGGTCAATGAATCAAATAACAGCCATTCTGTGGCGCT
 GCGACTGGGACCGTCATCTGCTCATCTCGAAAGGAAAATCGAGCCACATACTTGTGTT
 CGATGAGGAATTGTTTCTATCTACTGGCGCAATTATTTCAATGCCGGGTTTC
 AAGTAAGAAAAGCAATTCTCCGCAACTTTATAACGATATTTCATTGGTGTCAAGAAACT
 GGGACTCTGATTTCTTTGTAATAATCTCTCTTGGTGTATGGGGTTGTCAAGAAACT
 TGATGTTGGTCCACTCGAGCTGGGACTATCTGCAATTGGTGTATTTCTCGGCAA
 CAGATTCTGTTGCCACCTTACAGGTGCTAACAGGATGAAACACCCCTACTCTACAGT

FIGURE 4 (continued)

10/18

CTGGTATTGGTGAAGGGGTCGTGAACGACGCCAACAGTGGCTGTTAATGCAGT
 GCAAAAGATCGACTTCGAACACCTAACCGGAGGGTGGCCTCCAGGTTCGGCAACT
 TCCCTATCTGTTCTAACCTAACGGCTCTGGCATAGCCACTGGCTCATTACCGCC
 TTGCTCAAGACACTCTACTTCCGGCCGTATAGTACTACCCGTAGGTGGCATTAT
 GGTCCTGATGCCACTTGCTTCATGCTGAGTTGTTCACTCAGTGGTATCA
 TTACTGTTTCTGCGCGTCTGCTCATGTCCTGACATGTTACCTGGCACAAATGTTACTGAG
 TCGTCCAGAATTACCTCTGCCATGTCGCTATGCTAAGCTTCATTGCCGAAACGTT
 TTTGTTCTGTACGTGGGACGGACGCGCTTGACTTCACAAAGTGGAAAGACGTCTCGT
 TATCCTTGGAAAGTCCCTAGGGTATCCAGCGTGCCTGGGTTGGTCTAGTCGGT
 CGGGCGGATTCGTTTCCCCCTCTGAGCAACCTTAGTAAGAAAACACCCCTGG
 GGAAAAAAATCACGATCAGGACAGGGTTGTAATTGGTGGCAGGACTTATGAGGGGG
 CCGTCAGCATCGCTTGGGTTCAACAAATTACAAGGGCCGGTCACACTCAGGTAAGA
 GGAAACGCAATCATGACTAGCACCATCATGGTGGCTTTCTACAGTGTGTT
 CGGCCTCACCACCGTTAACCTCTCATACCCATCGCAATGCAACCTCCA
 TGTTGCTGACGACTCCAGCCIAAGTCTACACAGCCACTTTAACCTCCCAACTG
 ATAAGCTCAATCGAGGAGGCCACGCAAATCCGCGCCGACAAATAACGGGGTGAGTT
 CATGACCATGACCGAACCGTCATCGCTATTGGCGCAAGTTGATGACAAGGTTCATGA
 GGCCTATTCGGAGGCAGGGTTTGTCCCCTTGTCGCCAGGTCGCTACCGAAAGA
 AGCTACCCGATCTATCCAAGGCATGA

SEQ ID NO 14: Zea mays Na⁺/H⁺ antiporter NHX3 protein

MSIGLTAETVTNKLASAEEHPQVVPNSVFIALCLCLVIGHLEENRWVNESITAILVGA
 ATGTVILLISKGKSSHILVFDDEELFFIYLLEPIIFNAGFQVKKKQFFRNFITIILFGAI
 GTLISFVLIISLGAMGLFKKLDVGPLEIDYIAIGAIFSAIDSVCTLQVLNQDETPLILYS
 LVFGEGVVNDATSVVLFNNAVQKIDFEHLTGEVALQVFGNLYLFSTSTVGLIATGLITA
 FVLIKLYFGRHSTTRELAIMVIMAYLSFMIAELFSLSGITIVFFCGVLMSHVTWHNVTE
 SSRITSRHVFAMLSFIAETFLFLYVGTDALDFTKWKTSSLSFGKSLGVSSVLLGLVLVG
 RAAFVFPFLSFLNLSKKHPEKITYRQQVVIWAGLMRGAWSIALAFNKFTRAGHTQVR
 GNAIMITSTIIVVLFSTVVFGLLTPLINLLIPHRNATSMILSDDSSPKSLHSPLLSQL
 ISSIEEPTQIPRPTNIRGEFMTMTRTVHYWRKFDDKFMRPMFGGRGFVFPVPGSPTER
 SSPDLSKA

SEQ ID NO 15: Zea mays Na⁺/H⁺ antiporter NHX4

ATGGGGTATCAGGTGTCGCCGCCAGCTGAAGCTGGCTCCCTCAGCTGACCAAGCGAAG
 CCTGGTTATCATCACGCTCTTCGTGGCCCTCTCTGCGCTTGATAGTGGTTGGGCCATC
 TTCTTGAGAGAACGCTGGCTAACGAAATCAATTACAGCATTGATAATCGGGCTCGGA
 ACCGGGGTTGTGATTCTATTGATCAGGCCAGGTAAGAACAGCCGCTGCTTGTGTTCTC
 GGAGGACCTTCTCATCTATTGCCGCCATTATTTCATGCGGTTCCAGG
 TGAAGAAGAACAGTTCTCCGAATTTCATGACAATCACACTATTGGCTGCTTGTG
 ACAATGATATCCCTCTTCAAAATCTCTCTGGCGCAATAGCGACATTCAAGCAGAATGAG
 CATTGGGACGCTAGATGTCGGGATTTCGCTATTGGAGCTATCTTTCTGCAACGG
 ATTCTGTGTCACGGCTCAGGTCAGGATGAGACGCCCTTCTGTACAGTC

FIGURE 4 (continued)

11/18

GTATTGGGGAGGGCGTAGTGAACGATGCCACAAGTGTTACTCTAACGCAGTTCA
 GAAGATCCAGTCACCCACATAAAATGCATGGACAGCTCTCCAGCTGATCGGTAACCTTC
 TTTACCTCTTCTCACGAGTACACTGCTCGGTATCGGGACGGCTTGATCACAGCGTT
 GTCCTGAAGAAGTGTATTTCGGCAGGCACTCCACTACCCGGAGCTTGCATCATGAT
 CTTAATGGCCTAAGTCATACATGCTTGGCAGTTGTTAGTCTGTCGGGCTCTCA
 CGGTCTTTCTGTGGCGTCAATGTCATGTCACATGGCATAATGTTACGGAGTCC
 AGCAGGACAACCAAGCCGTCACTGGTGCAGCGCTCGTATATCTGAGACTTTCAT
 ATTCTGTATCTGGGCATGGACCCACTCGATTTGAGAAGTGGAAAGACCTCATCATTAA
 GCTTCGGTGGGACCCCTGGGAGTTAGTGGAGTACTCATGGGCTGGCATGCTAGGAGA
 GCTGCTTCTCTCTCTCTCCAACTCGCCAAGAAAACACCAAAGTGA
 GAAAATTCTTCTTCTGAGATGCAAGGTTGATTTGGTGGGGCTTAATGCGCGCGCG
 TTTCATGGCTTGGCGTGAACAAATTCACTCGGAGCGCCACACCCAGCTACATGGC
 AATGCTATCATGATAACTCAACCATTAACCTGGTGCCTGTTCTACGATGGCTTGG
 CATGATTACAAAGCCACTGATCAGGCTGCTTGCCTGCGCTGGACATCCGAGAGAAT
 TATCGGAACCGTCGTCACCCAAAGAGCTTCCATAGTCCTCTTACCTCGCAACAGGGA
 TCTGACCTGGAGTCGACAACCAATATAGTCGCTCCCTCTCACTTAGGGGCTCTCAC
 TAAACCAACTCACAGGTGCACTACTGGCGAAGTTGATGACGCACITATGAGAC
 CGGTGTTGGGGGACGTGGTTCTGTGCCATTGTTCCGGCAGCCAAACGAGCGAAAT
 CCACCGATCTGTCCTAAAGCCTGA

SEQ ID NO 16: Zea mays Na⁺/H⁺ antiporter NHX4 protein

MGYQVVAALKLASSADHASVVIITLFWALLCACIVLGHILLEENRWLNESITALIIGLG
 TGVVILLISRGKNSRLLFVSEDFLFFIYLPPPIIFNAGFQVKKKQFFRNFMFTITLFGAVG
 TMISFFTISLGAIATFSRMSIGTLDVGDFLAIGAIFSATDSVCTLQVLHQDETPTFLYSL
 VFGEVGVVNDATSVVLFNAVQKIQFTHINAWTALQQLIGNFLFSTSTLJIGTGLITAF
 VLKKLYFGRHSTTRELAIMILMAYLSYMLAEFLSLSGLLTVFFCGVIMSHVTWENVTES
 SRITTSRHVFATLSFISSETFIFLYVGMDALDFEKWKTSLSFGGTLGVSGVLMGLVMLGR
 AAFVFLPSFLSNLAKKQSEKISFRMQVVIWAGLVRGAWSMALALNKFRSGHTQLHG
 NAIMTISTITVVLFSTMVFGMITKPLIRLLLIPASGHPRELSEPSSPKSFHSPLLTSQQG
 SDLESTTNIVRPSSLRGLLTKPTEHTVHYWRKFDDALMRPVFGGRGFVFPVPGSPERN
 PPDLSKA

SEQ ID NO 17: Hordeum vulgare HvNHX1

AACGGAACCTTCTCCAGATACCCCGCCCGCGCGAAAAGAATAGAGGAGAATCCGACCT
 CCCCCCCCAGCGCGCTGCGCATCTGCCCCCCCCTCTTCTCCCTCCCTCGCTCCCCACCCC
 GGGTTTCCCGTGCCTTCTTCCCTCCACCCCGGCCCGGGCAGCAAGCAGCGGGCG
 AGACGGGGCCAGGAGGAGGAGCTGGCTGTTCTCGTCTCCCCGTGATTCGTCTC
 CGGATAGCGCCGCCCGCGCTTCCCGAGGGCTCCCTCCGGTTGATTCGATCTGATTG
 AAAAAGCCCGCGTCTTCCCGAGGGCGCGCTCGCTCGCTCGGGAGCTAGCTGTGTCTC
 GTTCGGCCGGCTCAAGGAAGAAGATAACGGCGGGATGGCGTTGAGATGGTGGCGG
 CGCAGTTGGCGCGCTGAGCGACGCCCTGGCACCTCGGACCACGCCCTCGTGGTCTCC
 ATCAACCTCTCGTCGCGCTGCTCTGCGCTGATCGTCCCTGGCCACCTCTCGAGGA

FIGURE 4 (continued)

12/18

GAACCGCTGGCTCAACGAGTCATCACCGCCCTCATCATCGGGCTGTGCACCGGGCTGG
 TGATCCTGATGACCACCAAGGGGAAGAGCTCGCACGTCTCGTCTTCAGCGAGGACCTC
 TTCTCATATACCTCCCTCCCATCATCTAACGCCGTTCCAGGTGAAGAAGAA
 GCAGTTCTTCCGGAATTTCATGACAATCACATTATTGGCGCTGCGGACGATGATT
 CATTCTTACAATCTCTTGTGCCATTGCGATATTCAAGCAAGATGAAACATTGGACA
 CTGGATGTATCAGATTCTCGCAATTGGAGCCATCTTCCGCGACAGATTCTGTCTG
 CACTTTACAGGTTCTCAATCAGGACGAGACCCCTTCTGTACAGTCTAGTTTCCGGG
 AAGGTGTGTGAACGATGCCACATCAGTCGTTCAAGCGCTCCAGAACCTCGAT
 CCTAACCAAATCGATGCAATCGTCAATTCTGAAGTTCTGGAAACTTCGCTACTTATT
 CGTGTCAAGCACCTTCTTGGAGTATTCTGGATTGCTCAGTGCATAACATAATCAAGA
 AGTTATACATAGGAAGGCATTCTACTGACCTTGAGGTTGGCCTTATGATGCTCATGGCC
 TACCTCTCATATATGCTACTGCTGCTTGATTGACTGGCATCCTCACCGCTTCTT
 CTGTGGTATTGTGATGTCGATTACTTGCAATAATGTCAGAGAGACTAAGAGTTA
 CAACAAAGCATGCTTTGCAACCTTGTCTTCATTGCTGAGACCTTCTCTTCTT
 GTTGGGATGGATGCACTGCGATATCGAGAACCTGGAAATTGCTAGTGACAGCCCTGGCAA
 ATCCATCGGAATAAGCTCAATTCTGCTAGGATTAGTTCTGGTGGAAAGAGCTGCTTTTG
 TCTTCCCGCTTCTCATCTTCTCAACCTGACAAGAACAGAGGAGCTGAAAAAAATAAGC
 TGGAGGCAGCAAATCGTAATATGGTGGCTGGCTGATGAGAGGAGCTGTGATCGC
 TCTTCTTACAATAAGTTACAAGATCTGCCACACACAGCTACACGGCAACCGATAA
 TGATCACCAGCACCAJCACTGTCGTTCTGTAGCACTATGCTGTTGGCATATTGACA
 AAGCTCTGATCCGTTCTGCTGCCGCGTGGAGCAATGGCGACCCCTGGAGGCCCTC
 GTCACCGAAGTCCCTGCACTCTCTCTCACAAGCATGCTAGGCTCGGACATGGAGG
 CGCCCTCCCCATCGTCAGGCCCTCCAGCCTCCGGATECTCATCACCAAGCGACCCAC
 ACCATCCACTAATCTGGCGCAAGTTGACGAGCGCTGATGCGTCTATGTCGGGG
 GCGCGGTTCTGCCCCACTCCCCCTGGATCACCCACCGATCAAACGTAATCGTGGCAT
 GAACCTTGTGGAGAAAGAGAAAAGCCATTACAGCTTCAGGAGACACTCTGAACCTGTTG
 TAACTGGAAGAGAAGGAGGTGCTACAGCTTCCGGAAGAACGGCGAAGTCTCCATTACTATT
 ATAATGTTGGCTACTGGAGGGCGAAGAACGGGCCCTCTGACGATGGTTCAAGATG
 AACGGTTGGTGGCCACCAACAGGAAGATGAAACCTAGTAAACGGTGTGCGAGTACCA
 TCGCTTATCGGTTACGACAACCCCTGATCATTTGTATGAGATTAACAGCCAATTG
 TACCCATTGAGATGAGATCTCTCTGCGCAGGCAGGCCATTCCCTGCTCCTTGGC
 TAGGAGTCTCTGGCTCCTGCATATCTACCACTGCTTATTAAATCTCTCCCCCACTTTC
 TAGTGGGATTGGCTAATGGTGTGTTTACCAAGTGTGAGATGAGATGATGATGATCTT
 GTGGCCTGGCTACAAAGAACCTCATCTCAAGTTATCTATCTATTCTATATTGAA
 TTGAACTGAACCTTGTCTTGAACCAAC

SEQ ID NO 18: *Hordeum vulgare* HvNHK1 protein

MAFEVVAALRLSDALATSDRASVVSINLFVALLCACIVLGHLLNEENRWLNESITALI
 IGLCTGVVILMFTKGKSSHVLFSEDLFFIYLLPPIIFNAQFQVKKQFRNFMITILF
 GAVGTMISFFTISIAAIIFSkmNIGTLVDVSDFLAIGAIFSFATDSVCTLQVLNQDETFF
 LYSLVFGEVGVNDATSVVLFNALQNFDPNQIDAIVLKFLGNFCYLFVSTFLGVFSCL
 LSAYIKKLYIGRHSTDREVALMLMAYLSYMLAEELLDLSGILTVFFCGIVMSHYTWHN

FIGURE 4 (continued)

13/18

VTESSRVTTKHAFAFLSFlAETFLFLYVGMDALDIEKWKFASDSPGKSIGISSILLGLV
 LVGRAAFVFPPLSFLSNLTKKTELEKISWRQQIVIWWAGLMRGAWSIALAYNKFRSGHT
 QLHGNIAIMITSITVVLFSTMLFGILTCKPLIRFLLPASSNGDPSEPPSPKSLHSPLLTS
 MLGSDMEAPLPIVRPSSLRMLITKPTHTIHYWRKFDDALMRPMFGRGPVYSPGSPT
 DPNVIVA

SEQ ID NO 19: *Triticum aestivum* NHX2

ATGGGGTACCAAGTGGTGGCGGCCAGCTGGCGGGCTGAGCGGCCGCTGGCACCTC
 GGACCAAGCCCTCGCTGGCTCCATCACCCCTCTCGCTCGCGCTGCTCTGCCCTGCATCG
 TCCCTGGCCACCTCGCTCGAGGAGAACCGCTGCGCTCAACGAGTCATCACCGCCCTCATC
 ATCGGGCTGTGACCGCGTGTTGATCCTGATGACCACCAAGGGAAAGGAGCTCGCACCT
 GCTCGTCTTCAGCGAGGACCTCTTCATCTACCTCTGCCCTCCATCATCTTCACCG
 CCGGTTTCCAGTGAAAGAAGAAGCAGTTCTCCCGAATTTCATGGCAATCACACTATT
 GGTGCCGTTGGGACATGATGCTGTTTCAAAATATCTCTTGCTGCCATTGCGATATT
 CAGCAGGATGAACATTGGGACACTGGATGTTAGATTTCTTGCAATTGGAGCTATCT
 TTTCCCGGACAGATTCTGTCCTGCACTCTACAGGTTCTCAATCAGGACGAGACGCCCTT
 TTGTACAGTCTAGTGTTCGGGAAAGGTGTTGTAACGATGCCATCGGTGCTTTT
 CAACCGCGTCCAGAACCTTGATCTAACAGATCGACGCGATCGTCATTCTAAGTCT
 TGGGAACCTCTGCTACTTATTCGTCAGGACCTTCTGTTGAGTGTAACTGGATTG
 CTTAGTGATCACGTCATCAAGAAGTTACATAGGAAGGCATTCTACTGACCGTGAGGT
 CGCACTGTGATGTCATGGCTTACCTCTCATATATGCTAGCTGAGCTGCTAGATTG
 GTGGTATCCTCACTGTAATTCTCTGTTGTTATGATGTCATGCAATTACACTGGCACAC
 GTGACAGAGAGCTCAAGAGTTAACAAAGCATGTCATTGCAACCTTGTCCCTCATCGC
 TGAGACTTTCTCTCTTATGTTGGGATGAGTGCAGTGTGATATTGAGAAGTGGAAAT
 TTGCTAGTGACAGCCCCGGAAATCCATTGGAAATAAGCTCAATTGCTCGGGTTGGTT
 CTGGTTGGAAGAGCTGTTCTGCTTCTCCGCTCTCGTTTATCCAACCTGACAAGAAA
 GACGGAGCTCGAAAAAAATAAGCTGGAGGCAGCAAATCGTAATATGGTGGCTGGCTG
 TGAGAGGAGCTGTCGATGCCCTTGCTTACAAATAGTTCAAGATCTGGTCACACA
 CAGCTGCAAGGCAACCGCGATAATGATCACCGACCCATCTGTCGTTCTGTTAGCAC
 TATGTTGTTGGCATTTGACAAAGCCTCTGATCCGGTTCTACTGCCCGCTGAGCA
 ATGGCGCCGCTCAGATCCCGCTCACCGAAGTCCCTGCACTCTCCTCTCCTCACAGC
 CAGCTAGCTCGGACCTGGAGGCGCTCTCCCATCGTGAGGCCCTCCAGCCTCGGGAT
 GCTCATCACCAAGGCCGACCCACCATCCTACTACTGGCCAAGTTGACGACGCGC
 TGATGCCCGGATGTTGGAGGGCGGGTTGCGCCCTACTCCCCAGGATCACCCACC
 GATCCGAACGTAECTGGAAATGAAACGTCGGAAAGAAGAACGGAGAAGCCATTACAGC
 TTCAGGAGACACTCTGAACTGTAACAGGAAGGGAGGAAGTGTACAGCTTCAAGAAA
 CGCGAAGTCTCCGGTAATTTAGCGTTGGCAGACTCGGAAGGCTGAAGAAGGGCG
 CCTCCGATGATGGTTAGATGAAACGGTTGGCTGGCCACCGACAGGAAGATGAACCCCTA
 GTAACGGTGTGCGAGTATCATCGCTTATCGGTTACGACAAAGCCCTGTAAGTT
 TGTATGAGATTAACAAGCCAATTGATCTATGAGATCTCGGTTGGCAGGAGGCGTC
 TGACCTCTGCACTGCGACGACCGCGGCGTGGCCAAGGCCGGTGCAGGGCGTGTAC
 GCGCCGTTCCCGCCGGGTGCATGTTCCACAGCGAGGGCGGCTCAAGAGCTTCGAGCA
 CCCCATGAACCGCTTAAGCGCTCCCAGGGTGGACAGCGAGGGCGTATGCGGGCG

FIGURE 4 (continued)

14/18

CCAACTTCAGGTCGACGCCCTCACCAAGATCAACTCCATGCCCGCGTCGGCAGCGCC
 ACCAAGTGGCCGCCGCTGGGACGACGCCGCATCTGATCCTCGCCGGCCGGCGTT
 GCTCTCCGTCGTGGCTCGTGGCTTATTGATTTACTTGTTTCTTCC
 TTGGCAATGTACATTCTGATCTGATCTGAGCCGTGTGGCGTGGCCGCTG
 GCACGTACGGCTGTTGCTACGATGGAGGAATAAGACTTGTCCAGTCCAAAAA
 AAA

SEQ ID NO 20: *Triticum aestivum NHX2 protein*

MGYQVVAALRSLGALGTSDFASVVSITLFLVALLCACIVLGHLLNEENRWLNESITALI
 IGLCTGVVILMTTKGKSHSVLVFSEDLFFIYLLPPIIFNAGFQVKKKQFFRNFMIAITLF
 GAVGTMMSFFTISLAIAIFSRMNIGTLVDSDFLAIGAIFSATDSVCTLQVLNQDETPF
 LYSLVFGEGVVNDATSVVLFNALQNFDPNQIDAIVILKFLGNFCYLFVSSFLGVFTGL
 LSAYVIIKKLYIGRHSTDREVALVMLMAYLSYMLARLLDLSGILTVFFCGIVMSHYTWN
 VTESSRVTTKHAFATLSFIABETFLFLVGMALDIEKWKFASDSPGKSIGISSILLGLV
 LVGRAAFVFPPLSFLSFLNKTELEKISWRQQIVIWWAGLMRAVSTALAYNKFTRSGHT
 QLGNAIMITSTITVVLFSTMFLFGILTLPKLIIRFLLPASSNGAASDPASPKSLHSPLLTS
 QLGSDLEAPLPIVRPSSLRMLITKPTHTIHYYWRKFDDALMRPMFGRGFVPYSPGSPT
 DPNVLVE

SEQ ID NO 21: *Oryza sativa NHX2*

GGTGGCCATCTCGCTTGAATCTGAGGGTGAGGCTGAGGAGGATCCACTGAGGTGGCGC
 GGTGGAGATGGGGCTGGATTGGGAGCTCTCGTCTCTCAAATCCGGCGGGCTTTGGT
 CGGACTACGACTCGATCGCCGATCAACATCTTCTGGCCTGCTGTCAGCTGCATT
 GTGATCGGGCACCTGCTGGAAAGGGAAACGGGGGGCTTAATGAATCCATCACCGCGCTTGT
 CATGGGGCTGATCACTGGAGGTGATCTCTGCTGTCAGTGGTGGGAAGAACTCGCACCA
 TTCTTGTTCAAGTGGGACCTCTTCATTATTTGCTTCCACCGATCATCTTAAAT
 GCTGGTTCAAGTAAAGAAAAAACATTCTCCGCAATTATGACAATTATTTATT
 TGGTGTGTGGGGACATTGATATCTTGTGATAATTCTCTGCTAGGTGCCATGACATTGT
 TCAAAAACCTTGATCTTGGTCACTCCAGCTGGGACTATCTTGCATTTGGGCTATTC
 TTCTCAGCAACAGATTCTGTTGCACCTTACAGGGCTTAACCAAGACAAACACCCCT
 ACTCTATAGTCTGGTTTTGGTAAGGGGTTGTCATGATGCTACATCTGTTGCTCT
 TTAATGCAATTGAAGACATTGATAATTGCTAATTGATAGCCTTGTCTACTAGGGTTC
 ATAGGAAATTCTCTACCTATTCTCACCAAGTACCCCTTGGAGTAGTTGCTGGGTT
 GCTTAGTGCCTATTATAAGAACATATGTTTGGCAGACACTCAACTGACAGAGAAG
 TTGCTATCATGATACTCATGGCTACCTTCTCATATATGCTGCGATGCTGCTAGATCTG
 AGTGGCATTCTCACTGTGTTCTCTGGAAATAGTAATGTCACATTACACTTGGCATAA
 TGTGACAGAAAGCTAGGATTACTACCAAGCACACTTTGCTACTTTATCTTCAATTG
 CTGAAATTCTTCTATTCTCATGTTGGGATGGACTGGACATTGAAAAATGGA
 TTAGCTAGCAGCAGCTCTAAAAAACCAATTGCTTAAGTGCACACTATATTGGGCTTGGT
 TATGGTTGGAAAGACAGCATTGTTATTCCCTTGTCTTCTTATCCAATCTAAGTAAA
 AAGAGACACGCCAAAGATCTCCTTCAAGCAGCAACTAATCATATGGTGGCAGGTCTC
 ATGAGAGGAGCAGTCAATGCACTTGCCTATCACAGTCCACCGCATCTGGTCATAC

FIGURE 4 (continued)

15/18

TGAATTGCGAATCAATGCTATCATGATCACCCAGCACAGTCATTGTTGTTCTGTTCAGCA
 CAATGGTTTTGGTTTTTACCAAGCCTCTCCTCAATCTCCTCATCCCACCAAGGCCT
 GACATAGCAGCTGATCTCAAGCCAGTCATAGACCCACTCTTGGAAAGCCTGCT
 GGGGTCTGACTTCGATGTAGGCCAGCCCTCCCTCAGAACACCTTCAGCTCTTCTCA
 CCAITCAACTCGCTCCGTTCATCGCGTGTGGCGCAAGTTGATGATAGATTCATGCGC
 CCCATGTTGCGGGGGCCGAGGCTTCGTTCCCTTCGTCGCCAGTGGAGCGGAG
 CATCCATGGATCTCACTGGCACTGTGACTGAGGCTGAAACATAGCTGAGTTGAGGTT
 CAGAAGGTGCAAGCA

SEQ ID NO 22: *Oryza sativa NHX2 protein*

MGLDLGALVLKSGGLLVSDYDSIVAINIFVALLCSCIVIGHILLEGNRWVNESITALVMG
 LITGGVILLVSGGKNSHILVFSEDLFFIYLLPPIIFNAGFQVKKKQFFRNFMIIILFGA
 VGTЛИSFIISLGAMTLFKKLDVGPLQLGDYLAIIGAIFSATDSVCTLQVLNQDETPLY
 SLVFGSGVVNDATSVULFNAIEDIDIMNDSLVLIAFIGNFLYLFFTSTLLGVVAGLLS
 AYIIKKLCFARHSTDREVAIMILMAYLSYMLSMLLDLSGILTUVFFSGIVMSHTWHNVT
 ESSRITTKHTFATLSFIAEIFLFLYVGMDALIEKWKLASSPKKPIALSATILGLVMV
 GRAAFVPLSFLSNLSKKETRPKISFKQQVIIWAGLMRGAWSIALAYHIFTASGHTEL
 RINAIMITSVIVVLSTMVFGGFTKPLLNLIPPRPDIAADLSSQSIIIDPLLGSLLGS
 DFDVGQPSPQNLLQQLLTIQTRSVRVWRKFDDRFMRPMFGRGFVPFVPGSPVERSIH
 GSQIQTVEAEHS

SEQ ID NO 23: *Saccharomyces cerevisiae*

ATGCTATCCAAGGTATTGCTGAATATAGCTTCAAGGTGCTTAACCACCGCCAAGAG
 AGCAGTTGATCTGACCATGATGATGAACTTCTACCTTCCCCGGATCTCCGGTAGCG
 ATGACCCATTGCAAGGTGATCTGATGACTAAACCTGTTACAGAGAAATGTT
 TCTTCATGGCATTGTTCAATTATGTTGCTCTTATTGATCTCTGCATTGTGGTCTAGTT
 CTATTAACTCAGAACAGAATTAGGGCAGTGCAAAACTGTGCTTTCTATTTTTATG
 GTATGTTATTGGCTGATAATAAGGATGTCACCCGGGATTATAATTCAGATAACGGTT
 ACTTTAATTCACTTACTTTTTAATGTTCTATTGCCCAATTATTAAATAGTGG
 GTACGAGTTGAATCAAGTGAACCTTTCAATAATATGTTATCTATCTTATTTCGCCA
 TACGGGGCACCTCATATGCTGTGGTTATTGGAATCATATTGTTATCTGGACCTTT
 TTAGGACTAGAGAGTATTGACATTTCATTGCAAGATGCAATGCTGTGGTCTACATT
 ATCTGCTACCGACCCCTGTTACAATTTCATTGCTTAAAGTGGATCCTA
 AGCTATATACCATCATTGGAGAACACTGTTAAATGATGCCATCTATTGTTATG
 TTGAAACCTGTCAAAATTTCATGGTCAACCTGCAACATTTCGTCGGTTTIGAAGG
 GGCAGGCCCTTTTGATGACTTTCTCCGTTCTGTTGATAGGCGTTCTTATAGGAA
 TTCTTGCTCTCTGTTGAAACACACTCACATAAGGCCTATCCTCAAATTGAGAGT
 TGTTGATCTGTTATTGCTTATGATCTTCTTCTCAACGCTTGCCATATGTC
 CGGTATCGTCTCCTGTTATTGCGGAATTACTTAAACATTACCCCTATTATAACA
 TGTCAAGAAGATCACAGATCACATTAAAGTATAATTCCAACTATTGGCAAGATTATCA
 GAGAATTTCATCTTATCTATCTAGGTTAGAACTTTTACTGAAGTAGAAACTAGCTA
 TAAGCCACTGCTAATTATTGTGGCAGCTATTCTATATGTTGCTCGTTGGTGTGCTG

FIGURE 4 (continued)

16/18

TGTTCCCATTGTCGAATTGTTAAGTGGATATAGAGTAAAGACAATCAGATCTATG
 AGCGGCATAACCGGAGAAAATATTCTGTTCCCGATGAAATACCCCTACAATTACCAAT
 GATGACATTTGGCAGGTTAACGTGGTGTGCTGGTGTGCCCTGGCGTTGGGAATT
 AAGGTGAGTATAAGTTCACTTATTGGCAACGGCTTGTGTTGTTTAACAGTT
 ATCATTTGGGGCAGTACTGAGGAATGTTAGAAGTAAATTAAAGACTGGTTC
 CATAAGTGAAGAAGATACTCTGATGACGAGTTGATATAGAGGCTCCAAGGGCGATAA
 ATTATATTGAACCGTAGTTCTATTACAGACAGATTGGGCCATATTCTGACAACAAATTCT
 CCAGATAATTCAATTGACCAATTGGCGGTCAAGCTAACAGAAATCTCCCACAAATACAT
 ATCCACAACTGGTGTAAATCTTTGGAGGGCTTAACTGAAACTGAGAAACTAGCCCTA
 ACCGGCAAGGTCTCTATGGATAAGCGTAATTGAGAGATAACTGGAAACAATCTT
 AATTCCGACTCACAAATGGTTCAAAATTGATGAAACAGGTATTGAAGCCAGTATTCTT
 GGACAACCTTCTCCATCTTACAAGATTGGCTACGCAATCACCTGCAGATTCTCTT
 CCCAAAACCACTAG

SEQ ID NO 24: *Saccharomyces cerevisiae* protein

MLSKVLLNIAFKVLLTTAKRAVDPDDDDLELPSPDLPGSDDPIAGDPDVDLNPVTEEMF
 SSWALFIMLLLISALWSSYYLTQKRIARAVHETVLSIFYGMIGLIIRMSPGHYIQLDTV
 TPNSSYFFNVLLPPIILNSGYELNQVNFFNMMLSILFAIPGTFISAVVIGIILYIWTF
 LGLESIDISFADAMSVGATLSATDPVTILSIFNAYKVDPFLYTIIFGESLNDNAISIVM
 FETCQKFHGQPATFSSVFEGAGLFILMTFSVSLLIGVLIGILVALLLKHITHIRRYPQIES
 CLILLIAYESYFFSNGCHMSGIVSLLFCGITLKHYAYNMSRRSQTIKYIFQILLARLS
 ENFIFIYLGLELFTVEELVYKPLIIIVRAISICVARWCAVFPLSQFVNWIYRVKTIIRSM
 SGITGENISVPDEIPNYQMMTFWAGLRLGAVGVALALGIQGEYKFTLLATVIVVVVLTV
 IIIFGTTAGMLEVLNKTKGCISEEDTSDEFDIEAPRAINLLNGSSIQTDLGPYSDNNNS
 PDISIDQFAVSSNKLPNNISTGGNTFGGINETENTSPNPARSSMDKRNLRDKGIF
 NSDSQWFQNFDQEVLKPVFLDNVSPSLQDSATQSPADFSSQNH

SEQ ID NO 25: *Magnaporthe grisea*

ATGACTTTCGATATCGCCGCAACCTCTGGAGCTCACAGGGCGCTGCCAGGAAC
 CGAACCTGGAGGAATGGCAGTTGGCCTTGCAGTGTGTTGCCGTCATGGACTCC
 AGGACCTCGTCAGTTGATACCAAATCTTCTCACCTCCTCCCTCACCCATCATC
 CTCTCGTCCGGCTACGAGTTACATCAGGCCAACCTTCTCCGGCACATCGGAACAAATTCT
 CACGTTCGCATTGCTGGCACGTTCTGTCAGTAGTCATCGGTGTATACATATGGC
 TTACACTCGCTACCCCTCGAGGGGCTCACCATGAACCTGGATCGATGCCATATCTGTT
 GGCACACTTTGTCAGTACCGATCTGTACCCATCATAGCCATCTCAACTCGTACAA
 GGTGGACCCGAAGCTGTATACCATCTTGGAGAGGCCATCCTCAATGACGCTGTGG
 CCATTGTCATCTCGAGTCGGCCAAAAGTCGCCAGGGGCTTGACCAAAGGCAGCGCT
 GCTGGCATCTCTACCTTCTTCTGGGGTTCTGGATTCTGAGGGACTCTTCGGCAC
 CTGTTCACTCGGGCGCTTCTGTCATCCTCACCGCGCTCATGCTCAAGTACACGTAC
 TCAGGAGGTTTCCCAAGCTGGAGAGCTGCTGATTGTGCTTATGCTTACGCCACGTAC
 TACTTTCCCAAGGCCATACACATGTCGGAATTGTGTCACTGTTCTGCGGAATCAC
 ACTCAAACACTATGCATACTTCAACATGTCGCCAGAACTCAGCTTACGACCAAGTACA

FIGURE 4 (continued)

17/18

TGTTCCAGGTCTCGACAACACTGTCAGAACTTTATCTTATTACCTGGGTGTTCC
 CTCTTTACGGACAAGGATCTCAGTCCAGGCCCCCTCCCTCATCATTGTCACTGTCATGGC
 GGTGTGCCAGCTCGCTGGTTGCCGTATTCCCACACTCTCGTGGGCCATCAACTGGTTCC
 ACAAGTACCGGGCAGAAAAGACGTGGCATCAAGAACGTGCCAGGAGCTGCCGTACAAG
 TACCAAGGCATGCTGTTCTGGCAGGGTTGGTGGAGCGGTGCTGTCCTGGCCGC
 GTTGGTGAAGGCCAAGGACCACGGCATTCAAGGGCACGGTCTGGTTGTGGTGGTGC
 TCACTGTCACTCATATTGGTGGCACTACGGTCAACCGTGCTGAAATCTCGAGATCCGC
 ACGGGACTGACGGATGAGATGAACTCTGACGATGAATTGACATCGAGGCAGTTGGGG
 CTACTACAAGCGATCGGTAAACGAATAGGTATAGCCCCCGGGCGCATGGTGTG
 TGCCCCCTGGACACACGGTCAGGTGGAGACGTGACAGTAATGGGCCGTGGTGGAAAGA
 GACGCCAGGCCGGCTGGAGCTGGACATAGATCTCCCTTGATGCGGCCAGGCG
 TCTCGTCTGTAACAGGGTCAACACCGCAAGAGCGGAAAGACTGGACCTCTGGCAACC
 CGGGCGGCTCGACAGACTGGATGACTTTGGAGCGACATTGACACGTCGGACCTGCCG
 CCACCAAGCCCCTAGGAGACGATCCAGCCAACTGCCCTACGGCGACAGAGGCAGC
 TGGTTTGGCAGCGGGGGAGCAGGACAAGGTGCAACACAGAGACGGGTGGCTGTCCG
 CCACGGCCGCACTGGCAGCTGTTCAAGCAGCGAGGACCAACAGCCCTGTTCAAGGCAG
 CTGGCAAGGAGACTACATCAAACCGAAGCTACTGCTCGATGGCGGTGCCCCCGTGGGAA
 CGGTGGTGGCGCTGGCGATCGAGTTAG

SEQ ID NO 26: Magnaporthe grisea protein

MTFDIAGNLLELTRRAAEPEPGGMAGVGLALRVFAVDGLQDLVSFDYQIFFNLLLPPII
 LSSGYELHQANFFRHIGTILTFAFAGTFLSAVIVGVLWLYTRVPLEGLTMNWIDAISV
 GATLSATDPVTIIIAIFNSYKVDPKLYYTIFGEAIIINDAVAIVFESAQSKARGLTKGSA
 AGISTFFFWFWIFLFLDFFGSLFIGALLGILTALMLKYTLRRFPKLESCLIVLIAYATY
 YFSQAIEMSGIVSLLFCGIGITLKHYAYFNMSRRTQLITKMFQVLAQLSENIFIYLGVS
 LPTDKDLQFQPILLIIVTVMAVCARWVAVFPLSWAINWFHKYRAERRGIKNVPEELPYK
 YQQMLFWAGLRGAVGVALAALLTAKDHRAFKATVLVVVLTVIIFGGTTVNVLEILEIR
 TGVTEIDSDDEFDIEAVGGYYKRSGNGIGYSPAGRNGVVPILDTRPGRRRDSNGAVGGR
 DASGWSSGHRSPSLAARPGLVRGSTRREEAERLDLILGNFGGSTDSDDFGSDIDTSDFP
 PPAFRRRSSPMPPTCDDEEAAGLPAGGSRTRSNTETGGLSATAAIRQLFSTEDPTALFRQ
 LDEDYIKPKLLLGGAGRGNGGGAGGSS

SEQ ID NO 27: Prolamine promoter

CTTCTACATCGGCTTAGGTGAGCAACACGACTTTATTATTATTATTATTATTATTATT
 ATTATTATTACAAAAATATAAAATAGATCAGTCCCTCACCAAGTAGACAAGTTGGTG
 AGTTATTGTAAAGTCTACAAAGCTAATTAAAGTTATTCGATTAACCTATTTCATAT
 TACAAACAAGAGTCTCAATGGAAACAATGAAAACCATATGACATACTATAATTGGTTT
 TATTATTGAAATTATAATTCAAAAGAGAATAAAATCCACATAGCCGTAAGTTCTACAT
 GTGGTGCAATTACCAAAATATAATAGCTTACAAAACATGACAAGCTTACATTGAAAAT
 TGCAATCCTTATCACATTGACACATAAAAGTGAGTGATGAGTCATAATTATTCTTCTT
 GCTACCCCATCATGTATATGATAGCCACAAAGTTACITTGATGATGATCAAAGAAC
 ATTTTAGGTGCACCTAACAGAATATCCAATAATGACTCACTTAGATCATAATAGA

FIGURE 4 (continued)

18/18

GCATCAAGTAAACTAACACTCTAAAGCAACCGATGGGAAAGCATCTATAAAATAGACAA
GCACAATGAAAATCCTCATCATCCTCACCAAAATTCAAATATTAGTTGAAGCATAG
TAGTA

SEQ ID NO 28: Ubiquitin promoter without first intron

GATAATGAGCATTGCATGTCTAAGTTAAAAAAATTACCCACATATTTTTTCACAC
TTGTTGAAGTGCAGTTATCTATCTTTACATATATTTAAACTTACTCTACGAATA
ATATAATCTATAGTACTACAATAATATCAGTGTAGAGAAATCATATAATGAACAGT
TAGACATGGCTAAAGGACAATTGAGTATTTGACAACAGGACTCTACAGTTTATCTT
TTTGTGTCATGTTCTCCCTTTTGCAATAGCTTCACCTATATAACTCTCA
TCCATTTATTAGTACATCCATTAGGGTTAGGCTTAATGGTTTATAGACTAAATT
TTTGTACATCTATTTTATTCTATTTAGCTCTAAATTAAAGAAAACAAAATCTAT
TTTGTATTTTATTAAATAATTAGATATAAAATAGAATAAAATAAGTGACTIONAAA
TTAACAAATACCCCTTAAGAAATTAAAAAAACTAAGGAACATTTTCTGTTTCAG
TAGATAATGCCAGCTGTTAAACGCCGTCGACGGACTAACGGACACCAACCAGCGAAC
CAGCAGCGTCGCGTCGGCCAAGCGAAGCAGACGGCACGGCATCTCTGCGCTGCCCT
GGACCCCTCTCGAGAGTTCCGCTCCACCGTTGGACTTGCTCCGCTGTCGGCATCCAGAA
ATTGCGTGGCGAGCGGAGACCTGAGCCGGCACGGCAGGGCTCCTCCCTCTCA
CGGCACGGCAGCTACGGGGATTCTTTCCCACCGCTCTCGCTTTCCCTCCCGCC
CGCCGTAATAATAGACACCCCCCTCCACACCTCTTCCCAACCTCGTGTGTTCGGA
GCGCACACACACACAACAGATCCCCAAATCCACCCGTCGGCACCTCCGCTTC

SEQ ID NO 29: prm3122 (sense, AttB1 site in italic)

GGGGACAAGTTGTACAAAAAAGCAGGCTTCACATGGGATGGAGGTGG

**SEQ ID NO 30: prm3123 (reverse, complementary, AttB2 site
in italic)**

GGGGACCACTTTGTACAGAAAGCTGGGTGCACTGTTCATCTTCCCTCC

FIGURE 4 (continued)

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